REMARKS

Claims 5-8 are currently pending in this application.

Claims 5-8 stand rejected under 35 U.S.C. §103(a) for obviousness over U.S. Patent No. 5,171,384 to Igawa et al. (hereinafter "Igawa"). For the following reasons, Applicants respectfully disagree.

Independent claim 5 is directed to a high-strength austenitic stainless steel strip exhibiting excellent flatness with a Vickers hardness of 400 or more. The high-strength austenitic stainless steel has a composition including 0-0.20 mass % C, 0-4.0 mass % Si, 0-5.0 mass % Mn, 4-12.0 mass % Ni, 12-20 mass % Cr, 0.24-5.0 mass % Mo, 0-0.15 mass % N, with the balance being Fe and inevitable impurities. The steel additionally has an Md(N) value in the range of 0-125 defined by a formula: Md(N)=580-520C-2Si-16Mn-16Cr-23Ni-26Cu-300N-10Mo, and has a dual-phase structure of austenite and martensite which includes a reversion austenitic phase at a ratio of more than 3 vol. %.

Independent claim 7 is directed to a method of manufacturing a high-strength austenitic stainless steel strip excellent in flatness of shape with Vickers hardness of 400 or more. The method includes providing an austenitic stainless steel strip having a composition including 0-0.20 mass % C, 0-4.0 mass % Si, 0-5.0 mass % Mn, 4.0-12.0 mass % Ni, 12.0-20.0 mass % Cr, 0.24-5.0 mass % Mo, 0-0.15 mass % N. The composition optionally includes at least one or more of 0-3.0 mass % Cu, 0-0.5 mass % Ti, 0-0.50 mass % Nb, 0-0.2 mass % Al, and 0-0.015 mass % B, REM (rare earth metals) up to 0.2 mass %, 0-0.2 mass % Y, 0-0.1 mass % Ca, and 0-0.10 Mg with the balance being iron except inevitable impurities. The steel strip has an Md(N) value of 0-125 defined by formula Md(N)=580-520C-2Si-16Mn-16Cr-23Ni-26Cu-300N-10Mo. The method further includes solution heating the austenitic stainless steel strip, cold rolling the austenitic stainless steel strip to generate a deformation induced martensite phase, and reheating the cold rolled austenitic stainless steel strip at 500-700°C to induce a phase reversion by which an austenitic phase is generated at a ratio of 3 vol. % or more in a matrix composed of the deformation induced martensite phase.

Igawa discloses a method for producing a high-strength stainless steel excellent in shape. In Igawa, a cold-rolled or a cold-rolled and annealed strip of a low carbon

martensitic stainless steel is continuously passed through a continuous heat treatment furnace and then is cooled to ambient temperature.

Igawa does not teach or suggest a high-strength austenitic stainless steel strip having a Md(N) value defined by the formulas in independent claims 5 and 7 in a range of 0-125. The claimed Md(N) value of the present invention represents the stability of the austenitic phase against working and is controlled in a range of 0-125 so as to generate deformation-induced martensite by cold rolling after solution treatment. Igawa, does not teach or suggest any Md(N) value. Furthermore, the data in Table 1 of Igawa, when substituted into the Md(N) equations of claims 5 and 7, results in a Md(N) value greater than 141, which is clearly outside the 0-125 range of the present invention. Therefore, Igawa does not teach or suggest the claimed high-strength austenitic stainless steel strip having an Md(N) value in the range of 0-125.

Additionally, Igawa does not teach or suggest a high-strength austenitic stainless steel strip having the combination of an Md(N) value in a range of 0-125 <u>and</u> a reversion austenitic phase at a ratio of more than 3 vol. %. The ratio of the reversed austenite in the steel of the present invention is controlled to be 3 vol. % or more to provide desirable flatness properties for the claimed stainless steel. Clearly, Igawa does not teach or suggest the combination of an Md(N) value of 0-125 and a structure including a reversion austenitic phase more than 3 vol. % as in independent claims 5 and 7.

Furthermore, with respect to independent claim 7, Igawa does not teach or suggest a method of manufacturing a high-strength austenitic stainless steel strip with Vickers hardness of 400 or more by reheating a cold rolled austenitic stainless steel strip at 500-700°C. In the present invention, the cold-rolled steel strip is reheated at a temperature of 500-700°C to reverse the deformation-induced martensite phase to the austenite phase. If reheating occurs at a temperature higher than 700°C, the martensite phase can soften, thereby making it difficult to provide a steel strip with a Vickers hardness of 400 or more. Reheating at a temperature greater than 700°C may also cause degradation of corrosion resistance, as described in pgs. 7-8 of the specification of the present invention. Igawa on the other hand discloses a heat treatment temperature within the range from the A_s point of the steel + 30°C

to the A_f point of the steel, for example 700-900 °C. Therefore, for all of the foregoing reasons, Applicants respectfully request reconsideration of the rejections of independent claims 5 and 7.

Claims 6 and 8 depend from, and add further limitations to, independent claims 5 and 7, respectively, and are believed patentable for the reasons discussed above in connection with independent claims 5 and 7. Reconsideration of the rejections of claims 6 and 8 is respectfully requested.

In view of the above remarks, reconsideration of the rejections and allowance of claims 5-8 are respectfully requested.

Respectfully submitted,

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